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The controversy over whether there should be a continued capability for AM reception on new automobiles in the USA is interesting. The auto makers are rather united in their desire to eliminate that broadcast band from the radio receivers in their new vehicles. They state that, that band doesn't work well in electric vehicles, and they are right about that. The interference experienced when trying to receive AM signals in electric automobiles is real. The band spectrum that AM broadcast stations use is of the same frequency range as most AM broadcast bands. Thus rendering the practical use of those frequencies of little or no use to AM transmission reception. This may seem like a rather moot point as the use by the listening public seems to have diminished greatly over time. The FM bands have become much more used, by and large than the AM bands. The limited use of the public on the receiving end and the difficulties of having a decent receive signal for some parts of that band, being some of the reasons for the waning popularity of AM listening. This all seems rather obvious to many. So it seems like the elimination of the AM spectrum capability on the radios installed in new vehicles is warranted.

Time was, there was no other band available in automobiles in the USA. Some imports, however, had SW in addition to AM and FM bands on their radio receivers, but they were of such a small minority that most people didn't even know that they had that capability. Then too, one of the reasons for the use of AM was for the emergency transmission of notices to the general public. (continued next page)

## UPCOMING Events for February 2025

- ◆ RARC Sunday Night 2 Meter Net is held on the 146.970 repeater at 8:00 PM. Net control operators for January are:
 

March 2, 2025	Wayne K0WLO
March 9, 2025	Rick KD9GVS
March 16, 2025	Greg KA9FOZ
March 23, 2025	Jon KD9WPD
March 30, 2025	Mark KB9OFK
- ◆ **Saturday** morning Rag chew, weekly on the 146.970 repeater, 8:00-9:00 AM.
- ◆ **March 4...**Monthly meeting at UU La Crosse, 401 West Ave
- ◆ **March 9...**Wisconsin QSO Party
- ◆ **March 15...**St Patrick's Day Parade
- ◆ **March 18...**Trustee Meeting, Time: 5:30 PM, Las Margaritas. All members are welcome to attend.

## AM or not... (continued)

For those of us who are of the age where we were around then, we can attest to the potential use of the CONELRAD (Control of Electronic Radiation) system which was established in 1951, to warn of the possibility of an imminent enemy atom bomb attack. That system was set up during the Cold War. All AM radios had a small red triangle at 640 and 1240 on the AM dial. The EBS (Emergency Broadcast System) is still in use today. NOAA Weather Radio (NWR) broadcasts official warnings, watches, forecasts, and other hazard information. NWR also broadcasts alerts of non-weather emergencies through the EAS (Emergency Alert System).

The advance of technology and the lack of immediate need for such systems has lead to their general demise. Most of the warning systems that still exist are based ei-

ther in Amateur Radio: i.e. ARES/RACES or an Internet connection. So the continued viability of AM broadcasts is becoming more and more of a thing of the past. Perhaps it is time to turn the page and move on to more usable means of radio broadcast and reception possibilities. AM radio still has a substantial following on the Amateur Radio Bands. Old and treasured methods die hard.

Unless the FCC or another Federal agency eliminates those frequencies, and it could happen. There will always be a niche for such use of the radio spectrum. In the meantime enjoy the airwaves for either listening or transmitting. From an older radio "dinosaur." I wish you 73

KC9HDS Carl



## PRESIDENTS COMMENTS

RARC Members and Friends:

Hello everyone and welcome to the President's Corner, it's hard to believe how fast the year is going. It was great seeing everyone at Winter Field Day and now here we are coming into March, and I am looking forward to helping with the St. Patrick's Day parade and I am hoping to make it to the Wisconsin QSO Party as it was a great time last year. At the March Program night Drew is planning a presentation on contesting to get warmed up for the year, and we are always looking for presenters for the program nights and I want

to bring back the Shack Share presentation for the program nights We already have the next ham class in the plans and I am working on a special guest presenter for an upcoming program night well I look forward to seeing everyone at the upcoming March Meeting and upcoming events,

73 from Your

2025 Club President

David KB9EWG



# Unscrambling Digital Voice

## Unscrambling Digital Audio Modes for the Radio Amateur

All radio amateurs should be familiar with analog voice modes such as AM, FM, SSB and variants of these. But over the past thirty years, digital voice has been working its way into ham radio.

The three big standards are D-Star, YSF (Yaesu System Fusion), and DMR. There are also several other standards sometimes, but not often used in ham radio.

The first to come on the scene was D-Star, by the Japan Amateur Radio League. It was quickly adopted by Icom, and later by Kenwood and FlexRadio Systems. Arguments have been made about the pros and cons of using D-Star, including some questions of its legality, though the FCC has deemed it legal while French regulators have declared it illegal. It is one of the most widely used digital voice modes in amateur radio. It is also used for data, and many linked repeater systems are compatible.

Today You can get into using D-Star by using a compatible radio, or by a variety of hot spots, dongles and accessories including home brew devices.

Digital Mobile Radio is another popular standard for digital voice and data transmission. Developed in Europe, its goal is to have low cost, low complexity and interoperability across brands, so that people are not locked into a proprietary solution.

The FCC officially approved the use of DMR on the amateur radio bands in 2014.

Advantages are:

- Timeslots. Basically, it doesn't need as much bandwidth as FM, so each ongoing transmission uses only half of the transmission time. Therefore, as there are two timeslots per one frequency channel, effectively two independent transmissions may happen at one frequency.
- As it is a digital mode, it can transmit additional information together with the voice. That means, for example, that if your radio is properly configured, you can see the callsign of the person who is currently speaking.
- Talkgroups - You can join talk groups and talk to other HAMs who are in the same talkgroups. Repeaters are usually linked together using the internet (for example using Brandmeister ), so you can talk with people who use different repeaters (similar to

## Unscrambling Digital Voice

- There are small, cheap, "private repeaters" available, called Hotspots. You link them with the rest of the amateur DMR network, and you can talk to other HAMs even if you don't have a repeater nearby. Some people even connect them to the mobile internet and take with them to their cars.
- Voice quality is better. Even on the weaker signal, the quality is still better than with FM. The problem is, that there is a pretty obvious "breaking point", where suddenly the voice stops being understandable.
- Compared to DStar or YSF, DMR radios are pretty cheap. DMR was not intended to be used by amateurs in the first place, and it is an open standard, therefore a lot of Chinese manufacturers are selling them at attractive prices, mainly to be used in emergency services, but there's nothing stopping HAMs from using them as well.

Yaesu System Fusion is the last of the three major standards. It is the only one specifically designed for hams. It has some of the same features as DMR, but is not compatible.

Wires-X is Yaesu's proprietary Internet linked repeater system, which uses System Fusion digital voice modes.

Riverland's repeater uses Yaesu System Fusion and Wires-X.

Less often used digital voice modes are NXDN, FreeDV, M17, and Project 25, also known as P25 or APCO-25.





# RIVERLAND AMATEUR RADIO CLUB

## SWAPFEST

JUNE 21, 2025

8:00 AM to 1:00 PM



AMERICAN LEGION  
Onalaska, WI

- Door Prizes
- Flea Market
- Buy—Sell—Trade
- Food Vendor
- Handicap Accessible
- Talk in 146.97



**VE Test Session at 9:00 AM**



### Advanced Table Reserve And Entrance Form

Entrance Fee \_\_\_\_\_ x \$5.00 = \_\_\_\_\_

Table Reserve \_\_\_\_\_ x \$10.00 = \_\_\_\_\_ [Does not include Entrance Fee]

Limited electrical hook-up available on a 1st come 1st serve. Indicate here if you are requesting electrical hook-up  (Checking box does not guarantee availability of an electrical receptacle)

Advanced form will be held at the entrance table for you. No pre-fest mailings.

Name \_\_\_\_\_ Call \_\_\_\_\_  
 Address \_\_\_\_\_  
 City \_\_\_\_\_ State \_\_\_\_\_ Zip Code \_\_\_\_\_  
 Phone \_\_\_\_\_ E-Mail \_\_\_\_\_

Mail form and fee to:  
 RARC  
 Box 621  
 Onalaska, WI 54650

## Nuggets

Save the date

Saturday, April 12, 2025: Hams in the Park and Picnic

Saturday, June 21, 2025: Swapfest



## BUY-SELL-TRADE-ISO



*Wanted: Articles for The Key*

*Please submit your Article by the 26th of the month and include "The Key" in the subject line.*

*Send your Amateur related classified ad(s) to Scott, NLT noon the 26th of each month to [kb3mkd@arrl.net](mailto:kb3mkd@arrl.net). Please Include "The Key" in the subject line.*

Looking for items for this space

## CLUB INFORMATION



### Riverland Amateur Radio Club

PO Box 621

Onalaska, WI 54650

- \* The Key is published monthly and e-mailed to members and friends of the Riverland Amateur Radio Club by the 28th of each month. The newsletter focuses on news, announcements and activities of the Riverland Amateur Radio Club. It may also consist of news and information of interest to the Amateur Radio community as a whole. Guest editorials and articles related to Amateur Radio are welcome. Contribution articles should be submitted NLT the 26th of the month. Address any correspondence or anything that should be included in the newsletter to: Scott Cross KB3MKD@arrl.net. Please include the word "Key" in the subject line of your submission.
- \* The Riverland Amateur Radio Club maintains a website at [rarc.qth.com](http://rarc.qth.com). More information about the club can be found there as well as past copies of The Key.
- \* RARC also maintains a Facebook page where members add information and share their Amateur Radio adventures. Please friend us at Riverland Amateur Radio Club—RARC.
- \* RARC maintains a repeater that is located on the WXOW television tower above La Cresent, MN. 146.970 pl 131.8.
- \* RARC holds a weekly 2meter net on Sundays at 8:00 PM on the 146.970 repeater.
- \* Trustee Meeting is held the 3rd Tuesday of the month at Las Margaritas at 5:30 PM, all club members are welcome.
- \* Program evening is held the 1st Tuesday of the month at 7:00 PM, elmer session at 6:30 PM at Unitarian Universalist Fellowship, 401 West Avenue in La Crosse.
- \* Weekly "Breakfast Club" Ragchew on the 146.970 repeater on Saturdays from 8:00 AM to 9:00 AM. Stop by to say "hi".

### **Below are listed your RARC 2025 Board of Trustees and contact information.**

President.....David Peters, KB9EWG Email... kb9ewg@gmail.com

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